

GUIDED IMAGERY TRAINING AS TREATMENT FOR ALCOHOLISM

BY

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This study was designed to test the efficacy of Guided Imagery Training and specifically Progressive Relaxation/Guided Imagery Training as a treatment for alcoholics. The study is a quasi-experimental research study using a randomized control group pretest-posttest factorial design. A 2 x 4 factorial design of two classifications of alcoholics and four treatment groups was used. Using the Diagnostic and Statistical Manual III, alcoholics were classified either First Stage or Continuous/Episodic alcoholics. The four

treatment groups were control, Progressive/Relaxation Training, Guided Imagery Training, and Progressive Relaxation/Guided Imagery Training. Pretests and posttests were administered to 120 outpatient clients in three treatment centers in Florida. Criterion measures were the Tennessee Self-Concept Scale, Spielberger's State-Trait Anxiety Inventory, and a Drinking Questionnaire, developed by the investigator. Treatment period was five one hour sessions. Control Group was actually five sessions based on the Reality Therapy approach. The three experimental groups were divided evenly, one half session Reality Therapy, one-half experimental session. Guided Imagery Training emphasized subject participation. Subject selected situations he wanted to cope with more effectively; situations were the focus of imagery session; subject verbalized as he visualized the situation; and subject reinforced visualized coping behavior by describing positive emotions regarding coping behavior. Emphasis was on coping. Treatments produced no change in self-esteem or actual drinking behavior. Progressive Relaxation/Guided Imagery Training significantly reduced state and trait anxiety more than Control Group and Progressive Relaxation Training. Guided Imagery Training significantly

reduced state and trait anxiety more than the Control Group. Guided Imagery was determined to be a significant part of Progressive Relaxation/Guided Imagery Training. A comparison was made of Guided Imagery Training, in this study, to that in past research. Recommendations were made that treatment be extended to have impact on self-esteem and drinking behavior.

CHAPTER I INTRODUCTION

This study addresses the problem of successful alcoholism treatment. In addressing this problem it becomes necessary to understand the basic tenets of alcoholism. Chapter I presents background research regarding social influence on alcoholism, along with research on the disease concept, psychological theories, and addictive cycle of alcoholism.

Chapter II presents a literature review regarding two personality characteristics of alcoholics, anxiety and low self-esteem. This prospectus suggests guided imagery can be a successful treatment for alcoholism. An overview of imagery and a rationale for imagery as treatment are presented. In treating alcoholics, a fundamental problem has been identified, the inability to cope (Blane, 1968; Chafetz, 1959; Chafetz, Blane, and Hill, 1970; Silber, 1959, 1967, 1970, 1974). Two factors influencing this inability are low self-esteem and high anxiety level (Berg, 1971; Gary and Guthrie, 1972; Gross and Carpenter, 1971; Masserman, 1976; McLachlon, 1976; Browne, 1976).

Chapter III outlines the research design, instrumentation, research procedure, and statistical analysis.

Specifically, this prospectus suggests that guided imagery can increase self-esteem, reduce the anxiety level and consequently reduce drinking in the alcoholic.

Background Information

Disease Concept

In 1971, the American Medical Association adopted a statement identifying alcoholism as a "complex disease with biological, psychological. and sociological components" (Todd, 1975, p. 396). Like other conditions it follows a more or less specific sequence. The susceptible individual is exposed to the causative agent and the early states of the process begin. When the process contains self-perpetuating mechanisms which develop as a "consequence" of the condition, the syndrome is furthered.

At this point the characteristics of the alcoholic have changed from their original status of "susceptibility to alcoholism" to those of alcoholism itself. This duality in which the factors perpetuating alcoholism may not only be "predisposing factors," but also its "consequences," has led to much confusion surrounding the pathogenesis of alcoholism. A clear description of the interaction of these two different types of causative factors is essential to the understanding of the pathogenesis of alcoholism.

The concept of the development of alcoholism follows largely the theoretical formulations of Seevers (1968) in the psychopharmacologic area and Jellinek (1960) in his work on the disease concept of alcoholism. Essentially this concept postulates the origins of alcoholism may be biological, psychological or social. The biological origins may be genetic or they may be prenatal and acquired as in those infants born to alcoholic mothers. The psychological elements contributing to the development of alcoholism cover a broad spectrum of psychopathology, which may be biological, experiential, or both. The social factors contributing to the development of alcoholism add their distinctive influence to the process. The total interaction of all these influences presents widely varying patterns in different people and represents a model of predisposition toward development of alcoholism for any individual.

The question as to which of these elements is most significant must be answered on an individual case basis. The thrust toward the development of alcoholism presumably is a combination of biological, psychological, and social influences so that when one or two are very strong, the third may be moderate or negligible.

Genetic Theory of Alcoholism

There is evidence that alcoholics may have as their predisposing etiological factors different elements in one of the areas of biology, psychology, and sociology. The example of the familial pattern in alcoholism is well established. That is, alcoholics tend to come from families where parents and siblings have a high incidence of alcoholism. A recent study by Goodwin, Schulsinger, Heransen, Guze, and Winokur, (1973) demonstrates significant relationships between biological parent alcoholism and biological child alcoholism. This study involved children of alcoholic parents adopted into families containing no alcoholics. The study found that 18% of the biological children of alcoholics would be diagnosed as alcoholic whereas only 5% of the non-alcoholic control group were diagnosed in this manner. Goodwin et al. (1973) further estimates that approximately 25% of the siblings of alcoholics will become alcoholic whereas the incidence in the general population is 5%.

Psychological Theories of Alcoholism

An instance of alcoholism which derives mainly from psychological disorder may be the so-called situational alcoholic. Because of an immediate stressful situation an individual may turn to alcohol as a sedative for his extreme anxiety and depression. When the precipitating situation has been resolved, drinking may cease.

In addressing the psychological factors, a look at the schools of psychology and their view of alcoholism is necessary. McCord, McCord and Gudeman (1960) have listed three Neo-Freudian explanations for the cause of alcoholism:

1. The classical Freudian view states that alcohol abuse is the result of unconscious tendencies, particularly self-destruction, oral fixation or latent homosexuality;
2. The Adlerian view is that alcohol abuse represents a struggle for power;
3. A more general psychoanalytic view is that alcohol abuse is the result of inner conflict between dependency drives and aggressive drives.

The Gestalt Therapy theory view may be considered a merger of psychoanalytic thought and Gestalt theory. According to Perls, Hefferline, and Goodman (1951), the alcoholic is seen as an "adult suckling" suffering from oral underdevelopment. He is considered to be a person who wants his "solutions" to life generally to be in liquid form, prepared, so that he can avoid the "excitement" which accompanies the difficult task of grappling with them. Learning and Reinforcement Theory (Dollard and Miller, 1950) also explains the process of alcohol addiction and is primarily based on two aspects of alcohol ingestion. First,

there is the proposal that alcohol itself has primary reinforcing properties. That is, the chemical effect of alcohol is tension or drive reducing (relaxing). Second, the ingestion of alcohol may be followed by other reinforcing events or stimuli, which serve in turn to reinforce the act of alcohol ingestion. If the effects have reward properties, the future use of alcohol becomes more likely. The reward properties may be ease of interaction with others or a pleasurable shift of emotion. The Humanistic-Phenomenological view appears to be relatively less concerned with formal models of personality than other schools. Its focus is more on the experiencing human being and his drive toward self-fulfillment (May, 1961). Alcoholism in this context may be seen as a manifestation of blocked awareness or thwarted growth.

Social Influence on Alcoholism

The idea has recently gained credence that social forces may be among the most important in predisposing to alcoholism. The socially isolated, unemployed person in the ghetto area has come to be seen as almost entirely the product of social rather than biological or psychological forces. The attitude has been fostered by the experience in heroin addiction where susceptibility to addiction is often more a function of social milieu in a given place at a given time than it is the biology or psychology of any specific individual

(Chein, Gerard and Rosenfeld, 1964). Supporting this is the statement by the Commission of Inquiry into the Non-Medical Use of Drugs:

Availability . . . that is, the opportunity for use and access to a supply of a drug . . . remains a primary matter of social concern. Without availability the vulnerability which is created by certain factors of a psychological and social nature would never be tested. Thus, availability remains one of the most important causal factors. (Le Dain, 1973, p. 33)

Addictive Cycle

The second causative factor, after predisposing factors, is the addictive cycle. The addictive cycle begins with the frequent ingestion of alcohol. The frequent ingestion of alcohol results, as it does with all depressant psychoactive drugs, in the development of tolerance, both metabolic and psychologic. Gradually, the individual finds that he needs ever increasing doses to obtain the same psychological reward that he could previously obtain with smaller doses. The ingestion of continually larger doses results in bathing of the tissues of the central nervous system in high concentrations of the drug. This in turn results in the gradual onset of physical dependence. With physical dependence comes withdrawal symptoms and these act, both directly and indirectly, to perpetuate and to increase the rate of drug-seeking behavior.

The specific role that physical dependence plays in perpetuating the addictive cycle has long been disputed. However, it is interesting to note that the early definitions of "addiction" (Seevers and Woods, 1953) involved the necessary presence of physical dependence. In the field of heroin addiction, Dole and Nyswander (1965) believe physical dependence is the major driving force in heroin seeking behavior. They describe "craving" as a psychological equivalent of physical dependence manifested as persistent withdrawal symptomatology.

The significance of physical dependence in the development of heroin addiction may be more apparent than it is in the development of alcoholism but it is by no means more important. Tolerance and physical dependence develop more slowly with alcohol than they do with morphine or its derivatives. Therefore, their import is less obvious in alcoholism than in heroin addiction. On the other hand, once physical dependence does develop in alcoholism, withdrawal symptomatology is far more severe and more persistent than with heroin (Kissin, Schenker, and Schenker, 1959; Schenker, Schenker, and Kissin, 1962; Tripp, Fluckiger, and Weinberg, 1959). Accordingly, craving for the causative agent to relieve withdrawal symptomatology is probably as great in alcohol as it is in heroin addiction.

"Craving" for Alcohol

It is important to distinguish between craving during an ongoing drinking bout and craving when the individual is abstinent. In the first instance, withdrawal symptomatology occurs throughout intoxication with particular exacerbations in the morning after brief periods of abstinence (Kissin, 1974). The presence of tremulousness, anxiety, depression, and insomnia constitutes the conditioned stimulus for which drinking has become the conditioned response. Craving during drinking is the subjective equivalent of withdrawal symptoms associated with learned recognition that alcohol will relieve those symptoms. These reinforcing mechanisms make the craving for alcohol during a drinking binge irresistible so that the alcoholic loses his ability to control his drinking. Loss of control becomes the larger descriptive term of the phenomenon occurring during the compulsive drinking bout. Stein, Niles, and Ludwig (1968, p. 601) found that uncontrolled drinkers reported "longer and more frequent blackouts, more frequent delirium tremens, 'shakes', vague fears and phobias associated with prolonged drinking than did controlled drinkers."

Recent research suggests that craving during abstinence may have greater psychological elements than those involved in loss of control. Ludwig, Wikler and Stark (1974) have developed an experimental model which supports both

physiological and psychological mechanisms. They postulate that "craving for alcohol (during periods of no physical dependence) represents the cognitive symbolic correlate of a withdrawal syndrome which can be produced by internal or external stimuli. This stimulus could be among other things, emotional stress or a favorite bottle of liquor. Hore (1974) reported on a questionnaire survey of 750 alcoholics in AA as to whether they had experienced moderate to severe craving for alcohol in the previous week. One third responded positively. There was a high correlation of craving with levels of anxiety and depression. "Cravers" had a significantly higher incidence of drinking during the past month and a significantly lower incidence of three-month abstinence periods than did "noncravers."

Thus, it is clear that some form of craving which leads to renewal of alcohol-seeking behavior does occur when the fully developed physical dependency has been achieved. At that point the alcoholic wants to drink to relieve symptoms of alcohol withdrawal (tremulousness, depression, insomnia) or to relieve either real (stress) or conditioned (bottle of liquor) symptoms of withdrawal as in craving.

Alcoholism as Symptom or Disease

The foregoing conceptualization helps illuminate the dispute as to whether alcoholism is a symptom or a disease. It is apparent that in the early stages of alcoholism

when the susceptible individual develops primary psychological dependence, alcoholism is a symptom. Here the alcoholic drinks to relieve some underlying discomfort or to satisfy some need to get "high." At that state alcohol is merely the instrument through which the individual achieves relief or satisfaction; the underlying pathology whatever it may be, is the cause of the drinking. In this phase alcoholism is a symptom of a variety of underlying pathologies, each one of which might be considered a different illness. At the end of the process however, when the cyclic phenomena of tolerance, physical dependence, loss of control, and craving have ensued, alcoholism becomes a disease. At this point, regardless of what may have driven the individual to drink in the first place, it is now alcohol and his physical and psychological dependence on it which are the driving motivations. With progression, the syndrome becomes more unitary both in its etiology and in its clinical manifestations. Whereas the dynamics and clinical signs of early alcoholism vary considerably, the pattern in late chronic alcoholism of physical, psychological, and social deterioration becomes unmistakable. Symptoms of chronic alcoholism include physical and psychological deterioration, loss of employment, family and/or marital problems, and legal problems.

Breaking the Addictive Cycle

In order to treat the alcoholic, the addictive cycle must be broken. The addictive cycle is effectively broken with abstinence, usually through detoxification at an inpatient unit. Once the cycle is broken, the therapist is confronted with the set of circumstances which underlie the psychological dependence on alcoholism. Different therapists emphasize different aspects of the problem, some stressing biological predisposition, some the psychological, and others the social. To a large extent, these different emphases determine the form of therapy offered. Despite the widely divergent approaches, proponents of all models tend to agree that the dynamic of most alcoholics can be described as an aberration in "coping" (Kissin and Begleiter, 1977).

Alcoholics cannot deal with the normal frustrations and irritations of the external world nor can they deal with the anxiety, depression and sense of inadequacy which exists within them (Blane, 1968; Chafetz, 1959; Silber, 1959, 1967, 1970, 1974; Chafetz, Blane and Hill, 1970).

Need for Study

It is currently recognized that in spite of the number of physicians, psychiatrists, psychologists and mental health professionals treating alcoholics, many forms of treatment continue to be minimally effective (Blane, 1977;

Chafetz, Blane and Hill, 1970). Due to questionable treatment effectiveness many professionals appear to have lost interest in the treatment of alcoholics (Zimberg, Wallace and Blume, 1978).

Many principles which govern the treatment of alcoholics have never been clarified. Smart, Schmidt, and Mass (1977) state that there is no established treatment which guarantees more than approximately 35% abstinence rates. Primarily because of this low rate. Plant (1967) and Blum and Blum (1967) recommend the multiple treatment approach in an effort to find the most appropriate treatment for the client. The multiple treatment approach has justly been criticized because in many instances it becomes synonymous with the "shotgun" approach. That is, the alcoholic is brought into contact with many modes of therapy in hopes one will be successful. This is not necessarily wrong but it would be more efficient if the specific elements of successful treatment were utilized, and those not influencing positive outcome were discarded. Thus, there is a need to identify specific treatment modalities that produce positive outcomes.

Rationale

The identification of a successful treatment modality becomes important with the proposed cutback in the budget

for substance abuse program (Budget, 1980). The proposed Federal Budget of Fiscal Year 1981 would mean cutbacks of \$50.9 million by the National Institute of Alcohol Abuse and Alcoholism, the major funding source for public alcohol treatment centers in the nation.

Greater emphasis is being placed on programs to document successful outcomes in the treatment of alcoholics. Evaluation of treatment is becoming necessary to perpetuate state and federal funding of alcohol treatment programs in the state of Florida (Draft for Florida State Plan for Alcoholism for Fiscal 1980-81, 1980).

This study investigates a treatment modality successful in treating the alcoholic. Benefits have been previously documented. The study describes the alcoholic along the dimensions of self-esteem, state and trait anxiety, and measures the effects of three forms of treatment on these dimensions as well as on drinking behavior and the urge to drink.

Research Hypotheses

This study will address the following null research hypotheses:

1. Guided Imagery Training will produce no change in self-esteem.

2. Guided Imagery Training will produce no change in state anxiety.
3. Guided Imagery Training will produce no change in trait anxiety.
4. Guided Imagery Training will produce no change in frequency of actual drinking behavior.
5. Progressive Relaxation Training will produce no change in self-esteem.
6. Progressive Relaxation Training will produce no change in state anxiety.
7. Progressive Relaxation Training will produce no change in trait anxiety.
8. Progressive Relaxation Training will produce no change in frequency of actual drinking behavior.
9. Progressive Relaxation/Guided Imagery Training will produce no change in self-esteem.
10. Progressive Relaxation/Guided Imagery Training will produce no change in state anxiety.
11. Progressive Relaxation/Guided Imagery Training will produce no change in trait anxiety.
12. Progressive Relaxation/Guided Imagery Training will produce no change in frequency of actual drinking behavior.

Definition of Terms

The following list refers to terms to which frequent reference will be made throughout the study:

Alcoholic: a person meeting the diagnostic criteria of the DSM-III for Alcohol Dependence 303.92. The essential features of Alcohol Dependence are either a pattern of pathological alcohol use or impairment in social or occupational functioning due to alcohol, and either tolerance or withdrawal (DSM-III, 1980).

Alcoholism: a term used synonymously with Alcohol Dependence 303.9x (DSM-III, 1980).

Alcohol Abuse: a pattern of pathological use for at least one month that causes impairment in social or occupational functioning (DSM-III, 1980).

Anxiety: "an affect distinguished by its specific unpleasurable characteristics. Anxiety consists of a somatic, physiological side (disturbed breathing, increased heart activity, vasomotor changes, musculoskeletal disturbances such as trembling, paralysis and increased sweating) and a psychological side (a feeling state characterized by the following: awareness of powerlessness, presentment of impending and almost inevitable danger, a tense and physically exhausting alertness, an apprehensive self-absorption which interferes with effective solution of reality-problems, and an irresolvable doubt concerning the probability of the

actual appearance of the threat)" (Hinsie and Campbell, 1977, p. 49).

Coping: "adjusting, adapting, successfully meeting a challenge. Coping mechanisms are all the ways, both conscious and unconscious, which a person uses in adjusting to environmental demands without altering his goals or purposes" (Hinsie and Campbell, 1977, p. 163).

Covert: "that which cannot be observed" (Wolman, 1973, p. 83). In this study thoughts are described as covert.

Craving: the desire for alcohol after withdrawal from alcohol has terminated (DSM-III, 1980).

Detoxification Center (Detox): an inpatient setting that provides approximately five day counseling and medical services to prevent withdrawal complications in persons who have been abusing alcohol.

Diagnostic and Statistical Manual of Mental Disorders-Third Edition (DSM-III): the official manual of the American Psychiatric Association containing diagnostic criteria, a multiaxial approach to evaluation, and descriptions of mental disorders.

Imagery: "the formation of images, figures, or likenesses by the mind" (Wolman, 1973, p. 188).

Imagination: "the faculty of forming mental images or concepts of what is not actually present to the senses" (Wolman, 1973, p. 188).

Imagine: "to form a mental image or concept not actually present to the senses" (Wolman, 1973, p. 188).

Impairment in Social or Occupational Functioning Due to Alcohol Use: violence while intoxicated, absence from work, loss of job, legal difficulties (e.g., arrest for intoxicated behavior, traffic accidents while intoxicated), arguments or difficulties with family or friends because of excessive alcohol use.

Manipulate: to alter or change. In this study, thoughts are manipulated. This means the individual alters or changes his thoughts.

Overt: "that which can be observed" (Wolman, 1973, p. 42). An example is behavior that can be observed.

Pathological Pattern of Alcohol Use: this phrase describes a need for daily use of alcohol for adequate functioning; inability to cut down or stop drinking; repeated efforts to control or reduce excess drinking by "going on the wagon" (periods of temporary abstinence); or restricting drinking to certain times of the day; binges (remaining intoxicated throughout the day for at least two days); occasional consumption of a fifth of spirits (or its equivalent in beer or wine); amnesic periods for events occurring while intoxicated (blackouts); continuation of drinking despite a serious physical disorder that the individual knows is exacerbated by alcohol use; drinking of non-beverage alcohol (DSM-III, 1980).

Self-Concept: a multidimensional construct describing how an individual views himself. This construct includes the following dimensions based on the Tennessee Self-Concept Scale: defensiveness, self-esteem, identify, self-satisfaction, how the person perceives his behavior, how the person views his body, moral/ethical view, sense of personal worth, worth as a family member, self as perceived in relation to others.

Self-Esteem: an element of self-concept describing how an individual values himself. Individuals with high self-esteem tend to like themselves, feel that they are persons of worth, have confidence in themselves, and act accordingly. Individuals with low self-esteem are doubtful about their own worth, see themselves as undesirable, often feel anxious, depressed and unhappy, and have little faith or confidence in themselves.

Self- Image: an element of self-concept describing how an individual views his body, his state of health, his physical appearance, skills, and sexuality.

State Anxiety: "a transitory emotional state of the human organism that is characterized by subjective, consciously perceived feelings of tension and apprehension, and heightened autonomic nervous activity" (Spielberger, 1966, p. 18). These anxiety states may vary in intensity and fluctuate over time.

State-Trait Anxiety Inventory (STAI): a forty statement self-report scale for measuring two distinct anxiety concepts, state anxiety and trait anxiety (Fitts, 1965).

Stress: "any interference which disturbs the functioning of the organism at any level, and which produces a situation which is natural for the organism to avoid" (Hinsie and Campbell, 1977, p. 720). External and internal conditions that affect the regulators of physical and psychological homeostasis in an individual (Gregory and Smeltzer, 1977).

Stressor: any condition or situation which can cause stress. According to Hans Seyle (1974), stresses include infection, trauma, nervous strain, heat, cold and muscle fatigue.

Subclassification of Course of Alcoholism: the DSM-III (1980) provides the following guidelines to be used in indicating the course of illness in the fifth digit (303.9x)

<u>Code</u>	<u>Course</u>	<u>Definition</u>
0	Unspecified	Course unknown or First Signs of illness with course uncertain
1	Continuous	More or less regular maladaptive use for over six months

Code	Course	Definition
2	Episodic	A fairly circumscribed period of maladaptive use, with one or more similar periods in the past
3	In Remission	Previous maladaptive use but not using substance at present. The differentiation of this from no longer ill and from the other course categories requires consideration of the period of time since the last period of disturbance, the total disturbance, and the need for continued evaluation or prophylactic treatment

Tennessee Self-Concept Scale (TSCS): a scale of 100 self descriptive statements which the subject uses to portray a multidimensional picture of himself (Spielberger, Gorsuch and Lushene, 1970).

Tolerance: a need for markedly increased amounts of alcohol to achieve the desired effect, or markedly diminished effect with regular use of the same amount (DSM-III, 1980).

Trait Anxiety: "the relatively stable individual differences in anxiety proneness, that is, differences between people in the tendency to respond to situations perceived as threatening with elevations in anxiety state intensity" (Spielberger, 1966, p. 32).

Visualize: "to form mental images or pictures" (Wolman, 1973, p. 403).

Visualization: "the act of forming mental images or pictures" (Wolman, 1973, p. 403).

Withdrawal: the development of Alcohol Withdrawal 291.80 whose characteristic symptoms are coarse tremor of the hands, tongue and eyelids, nausea and vomiting, malaise or weakness, autonomic hyperactivity (such as tachycardia, sweating, and elevated blood pressure), anxiety, depressed mood or irritability that follow within several hours cessation of or reduction in alcohol ingestion by an individual who has been drinking alcohol for several days or longer (DSM-III, 1980).

Organization of the Study

The remainder of this study is organized into four additional chapters plus appendices. Chapter II reviews anxiety and self-esteem in the alcoholic, presents a historical view of imagery as treatment, and proposes a rationale for imagery as treatment of the alcoholic. Chapter III covers research design, hypotheses, instrumentation, procedure and evaluative measures. Results are presented in Chapter IV. Chapter V presents the conclusion for the study and allows the researcher to suggest recommendations.

CHAPTER II REVIEW OF THE LITERATURE

This review addresses three areas. The initial section delineates two personality characteristics of alcoholics: high anxiety and low self-esteem. The second provides an overview of imagery as treatment. The third evaluates the concept of successful treatment with special emphasis on the rationale of imagery as treatment.

Anxiety in the Alcoholic

Researchers have observed anxiety symptoms in alcoholics and consider anxiety to be a basic characteristic of the alcoholic (Milt, 1977; Chafetz, Blane and Hill, 1970). Silber (1959; 1967; 1974) identifies the alcoholic's coping with anxiety as a major problem.

Silber (1974), specifically identifies alcoholic personality characteristics as low tolerance of frustration and anxiety. Recommended treatment is that the alcoholic learn to reduce anxiety and improve coping skills. Additional evidence for the identification of anxiety as a basic personality characteristic is the finding of Masserman (1976). He observed that alcoholics display high anxiety. McLachlon (1979), Scorzelli, and Reinke-Scorzelli (1976) and Dunn and Hedberg (1974) also identify high anxiety levels in the alcoholic.

Stress and Drinking

In reviewing anxiety in the alcoholic it becomes essential to examine the influence of stress. Eaton, Peterson and Davis (1976, p. 238) in Psychiatry: Medical Outline Series determined "a stress situation exists when something in the environment causes a threat to life; a risk of injury; an actual or potential loss of security, self-esteem, or important sources of satisfaction." Thus the result of stress takes the form of anxiety manifested by tremor, tension, sweating, restlessness, irritability and difficulty in concentration (Eaton, Peterson, and Davis, 1976). By definition, the result of stress on individuals is anxiety and since the present environment is charged with stresses (Seyle, 1974), the alcoholic cannot avoid dealing with anxiety. Stress is not synonymous with anxiety but because of their interrelationship, anxiety is exhibited in the presence of stress.

The reaction of the alcoholic to stress is predictable. Researchers have found direct correlation between stress and drinking by the alcoholic (Higgins and Marlatt, 1975; Miller, Hersen, Eisler, and Hilsman, 1974; Sadana, Thistle, and Forsyth, 1978; Strickler, Tomaszewski, Maxwell and Suib, 1979). The greater stress an alcoholic perceives, the greater the tendency to drink. As might be expected,

levels of anxiety are positively correlated with an alcoholic's drinking (Bundle, Whitlock, and Franks, 1974; Cahalan and Cisin, 1968 (a); Cahalan and Cisin, 1968 (b); Kraft and Al-Issa, 1968; Morrissey, 1979).

Maloof (1975, p. 116) found that drinking suppressed the stress reactions of alcoholics. He also concluded that "drinking helps alcoholics cope with stress by affecting their cognitive appraisal of stimuli." Alcohol's analgesic effect lessens the impact of affective stressors, particularly those due to undesirable life events.

State and Trait Anxiety

An additional investigator, Spielberger (1966), has identified high anxiety in alcoholics. Due to his extensive research in anxiety, he has identified two distinct types: state and trait.

Parker, Gilbert and Thoreson (1978), Eno (1975), Browne (1976), and Strickler, Bigelow, Wells and Liebson (1977) have all found both high state and trait anxiety in the alcoholic. Additionally, Cautela and Rosenstiel (1975) have identified high state anxiety in drug addicts.

Low Self-Esteem

There is substantial research to support that male alcoholics have poor, inadequate or distorted self-image, low self-esteem or poor self-concept (Kinsey, 1966, 1968).

Cahn (1970) reported that 150 professional therapists, treating alcoholics, identified the following core personality characteristics of alcoholics: anxiety, depression, self-depreciation, compulsiveness, dependence and immaturity. Similarly, Blum and Blum (1967) in their investigative work summarized the traits most commonly referred to: restless, angry, depressed, insecure, conflicted, anxious, deeply guilty, lacking self-esteem and assertion, emotionally unstable, low frustration tolerance and high but unfulfilled aspirations.

Of these personality characteristics, researchers have consistently identified one they consider significant--low self-esteem (Cautela and Rosenstiel, 1975; Charalompous, Ford and Skinner, 1976; Chafetz, Hill, and Blane, 1970). Other investigators have specifically identified low self-esteem in the alcoholic: Gross and Adler, 1970; Tomsovic, 1976; Felde, 1973. They have found upon entering treatment, most alcoholics display this characteristic.

The question of whether low self-esteem produces alcoholism or alcoholism produces low self-esteem may be a moot point, but the fact that low self-esteem is a characteristic of alcoholism is significant. Support that low self-esteem precedes alcoholism is presented by Jones (1968) in a longitudinal study of sixty-seven children to adulthood. Of the ones developing into problem drinkers and alcoholics, low self-esteem was a common thread. McCord (1972) in a

follow-up study produced similar results and Cahalan and Room (1974) found low self-concept was a factor predictive of problem drinking in adult life. Although researchers may not agree if low self-esteem necessarily precedes or occurs during the development of alcoholism, it is conceded that low self-esteem is a significant characteristic of the alcoholic.

Overview of Imagery

The effect of imagery on behavior has been noted by many researchers. Assagioli (1977) states every image has in itself a "motor drive," meaning that our images initiate behavior and that if behavior can be viewed as a process, then imagery becomes a part of that process. Jacobson (1968), in developing the procedure he called Progressive Relaxation, found that imagery does not just affect the mind but also parts of the body. He gives the following examples: think of reading and our eyes move toward the imagined paper; think of brushing hair and there is muscle action in the arm that brushes hair.

In addressing imagery and behavior, Kreitler and Kreitler (1976, p. 148) in their investigation of cognitive orientation substantiate the hypothesis "that cognitive system and in particular the orientative aspect of cognitive contents as well as their various forms of interplay determine the direction of human behavior." Through this hypothesis

and through other investigation, they assert that our images shape our action. Supporting this assertion, that images shape action, are Weiss (1952), Taub and Berman (1968), Milner (1970) and Pribram (1971). Also Prince (1975) states imaging is one of the basic tools of problem solving.

Specifically, imagery has been successful in improving self-concept (Krop, Calhoon, and Verrier, 1971). Additionally Beck (1970) and Susskind (1970) believe a person can visualize what he wants to be. According to these researchers, visualization builds self-confidence, provides a means of self-identification, and provides techniques for coping with anxiety provoking situations.

Modeling

One researcher who has been successful in using imagery as a treatment modality is Bandura. Bandura's use of imagery has been in modeling (1969, 1970). Modeling, according to Bandura, means that the subject views a live person or video tape of a person performing a specific behavior he wants to learn. He then visualizes the subject performing the behavior. The subject models the behavior in his mind. Also, the subject may simply be asked to visualize someone (rarely himself) performing the targeted behavior. Bandura's premise for modeling is that "virtually all learning phenomena resulting from direct experiences can occur on a vicarious basis through observation of other people's beha-

avior and its consequences for the observer" (1970, p. 350). He also supports that most behavioral changes are cognitively mediated and that persons can acquire intricate response patterns and emotional responses through visualizations.

Covert Modeling

Kazdin also has been successful in using imagery as a treatment modality. He has designated his imagery procedure as Covert Modeling. For Kazdin, covert refers to the use of the mind to visualize scenes. Primarily, Kazdin has been successful in modifying non-assertive and avoidance behavior (1973, 1974 (a), 1974 (b), 1975, 1976, 1979).

Initially, Kazdin used live or filmed performances for the subject to view. Later he discovered that models were unnecessary as subjects could visualize the desired behavior without prompting. Kazdin (1974) (a) also added positive reinforcement to his modeling paradigm. After the subject visualizes the desired behavior, he visualizes something that would be positively reinforcing. This positive reinforcement could range from an ice cream cone to a pleasant experience. The results of these Kazdin studies indicate that subjects can be taught assertive behavior and can reduce avoidance behavior through Covert Modeling.

Covert Conditioning

Another investigator using imagery to modify behavior is Cautela. He titles his work in this area Covert Conditioning: covert sensitization, covert positive reinforce-

ment, covert negative reinforcement, covert extinction (1966, 1967, 1970, 1971, 1972, 1973; Cautela and Rosenstiel, 1975).

Covert Sensitization

Covert sensitization is used to treat maladaptive approach behavior. It is based on the punishment paradigm in which an aversive stimulus is presented simultaneously with the response to be decreased. The subject imagines that he is performing the behavior to be decreased. Then he imagines some aversive reaction. Next the subject imagines a self-control scene, a pleasant scene that is safe, secure and not associated with either the primary situations or the aversive scene.

The following is an example of a covert sensitization session: The subject wants to eliminate the habit of smoking. The counselor directs him through the imagery. As the subject imagines he is holding a cigarette, lighting it, and bringing it to his lips, he is told to imagine that he begins to feel sick to his stomach. In his imagination, he begins to vomit. The vomit goes all over the floor, his cigarettes, his friends, and himself. He is then asked to visualize the complete scene and signal the therapist by raising his index finger, when he actually feels nauseated. When he raises his finger, he is told to imagine that as he rushes outside into the fresh clean air, the nausea goes away and he no longer feels ill.

Covert Positive Reinforcement

Covert positive reinforcement is used to treat maladaptive avoidance behavior. The basic assumption of covert reinforcement procedures is that a reinforcing stimulus presented in imagination functions in a manner similar to an externally applied reinforcer. In covert positive reinforcement, the subject imagines the behavior he wished to increase. Then he imagines a reinforcing stimulus.

The following is an example of a covert positive reinforcement session: The subject wants to become more confident when he is talking to girls. First the subject selects a "reinforcement" scene, a situation he can visualize and experience pleasure. Then the subject imagines he is going to call a girl for a date. As he picks up the phone to dial, the counselor says "reinforcement." The subject immediately visualizes the reinforcement scene. When the subject indicates that the image is clear, the therapist continues. The girl answers and he responds. Then he asks her if she is free Saturday night and tells her that he would like to take her out. The counselor says "reinforcement" and the subject visualizes the reinforcement scene. As the subject visualizes the conversation scene, the "reinforcement" is used selectively to promote the continuation of the conversation scene.

Covert Negative Reinforcement

Covert negative reinforcement is used to treat maladaptive avoidance behavior. The basic assumption is the escape

conditioning paradigm in which a noxious stimulus is presented and is terminated when the response to be increased is performed. The subject imagines he is in a very aversive situation. When the scene is clear, the subject upon hearing a cue word erases the scene with the noxious stimulus and then imagines the response to be increased.

The following is an example of a covert negative reinforcement session: The subject wants to be able to walk into a room full of people and feel comfortable. The subject is told the following: You can feel yourself tied down in a chair in your living room; you don't see yourself there, but you try to imagine you are actually there; now look around you; you can see all the furniture; you can feel the chair underneath you; suddenly, you see a snake coming toward you; you try to struggle to get away, but you can't. Now when this scene is very clear, the subject immediately erases the noxious stimulus scene and imagines the response to be increased--walking into a room full of people and feeling comfortable.

Covert Extinction

Covert extinction is used to treat maladaptive approach behavior. The basic assumption is that if a subject is instructed to imagine that the reinforcing stimulus maintaining his covert or overt behavior does not occur, then that behavior will decrease in probability. The subject ima-

gines the behavior he wishes to decrease. Then, he imagines the normally occurring reinforcing stimulus does not occur.

The following is an example of a covert extinction session: The subject wants to quit stuttering. In this case, stuttering is maintained and reinforced by the environment. The counselor asks the subject to imagine the following scene; you are sitting in the school cafeteria; you choose the place you usually sit; you can hear and see students walking around, eating and talking; there is an empty chair near you; a pretty blond comes over and asks if she can sit down; you stammer "ya . . . ya . . . ya . . . ya . . . yes." She absolutely does not react to your stuttering.

Concept of Successful Treatment

Successful treatment for alcoholics requires that specific treatment goals are met. The primary goal of treatment for the alcoholic has been and is currently abstinence (Chafetz, Blane and Hill, 1970; Guze, Tuason, Stewart, and Picken, 1963; Kissin and Begleiter, 1977; Milt, 1977).

As mentioned previously, two important personality characteristics of the alcoholic must be dealt with: low self-esteem and high anxiety. The Veterans Administration Alcohol Rehabilitation Program in Sheridan, Wyoming, used self-concept as measured by the Tennessee Self Concept Scale as a measure of successful treatment (Tomsovic, 1976).

It has been determined by the program that an elevation in self-concept is necessary to increase the individual's effectiveness in coping with his addiction. Others recommending self-concept as a measure of successful treatment are Gross and Adler (1970), Gross, (1971), Felde (1973), and Lowe and Thomas (1976).

Because an alcoholic's anxiety level is positively related to his alcohol consumption, a treatment recommendation is improved coping of or a reduction in anxiety (Higgins and Marlatt, 1975; Strickler, Tomaszewski, Maxwell and Suib, 1979; Miller, Hersen, Eisler and Hilsman, 1974). Foy, Miller, Eisler, and O'Toole (1976) recommend anxiety coping training for alcoholics. They indicate an improvement in anxiety reduction results in improved social coping. Dollard and Miller (1950) concur that a reduction in anxiety increases a client's problem solving capacities. O'Leary, Rohsenow, Shau and Donovan (1977) recommend reduction of anxiety as a measure of successful treatment.

In addition to research supporting the individual reduction of anxiety and increase of self-esteem for the alcoholic, there is support for a correlation between anxiety and self-esteem. There is evidence that with an increase in self-esteem, there is a reduction in anxiety (McCandless, Castaneda, and Palermo, 1956; Castaneda, Palermo and McCandless, 1956). Mitchell (1959) in a study of one hundred

college students found the higher the self-concept, the lower the anxiety level. Supporting the inverse relationship between self-esteem and anxiety are Lipsett (1958), Foy et al. (1976) and Coopersmith (1959, 1960). Hamacheck (1971) summarized the relationship by stating that the anxiety a person experiences in a situation depends partially on his overall concept of personal adequacy and self-esteem. High self-esteem persons faced with anxiety producing situations deliberate carefully and make high quality decisions.

Rationale for Imagery as Treatment

Crucial to the belief that imagery can be an effective treatment modality is the acknowledgement of three basic concepts:

(1) Covert processes affect overt behavior (Cautela, 1973; Wolpe, 1973; Homme, 1965; Lazarus and Abramovitz, 1962; Schwartz and Higgins, 1971). An example of this concept is that a reinforcing stimulus presented in the imagination can result in an increase in the frequency of a behavior.

(2) Manipulation of imagery can effectively modify maladaptive behavior (Cautela, 1966, 1967, 1970; Wolpe, 1958; Williams, 1941; Arnold, 1945). An example is covert sensitization in which a subject imagines aversive conditions occurring concurrently with the behavior he wishes

to terminate. The repetition of imagining this scene results in a decrease of the unwanted behavior.

(3) Manipulation of covert processes can influence overt processes in a predictable manner (Cautela, 1970, 1972; Lang, 1964; Kazdin, 1974 (b); Wolpe, 1958; Antonitis, 1951; Paul, 1966. An example is imagining a pleasant situation after performing a behavior tends to increase the frequency of that behavior. Another example is imagining an unpleasant situation after performing a behavior tends to decrease the frequency of that behavior.

Not only can imagery modify behavior, it has other characteristics that enhance it as a treatment modality: (1) there is no reliance on equipment, (2) procedures can be applied in almost any situation, (3) procedures are not limited to practical reality, as anything may occur in the imagination, (4) neither imagery nor learning is observable, but results of both can be measured by behavioral change. (Cautela, 1973).

Treatment using imagery has been determined successful in treating alcoholism by Coperman (1977), Flannery (1976), Cautela (1972, 1966), and Ashem and Donner (1968). Additionally, imagery has been successful in treating related drug addiction (Cautela and Rosenstiel, 1975; Droppa, 1973; Wisocki, 1973; and Cahoon and Crosby, 1972).

By identifying the specific aspects of these successful studies, a comparison can be made that will demonstrate the uniqueness of this study. Coperman (1977) identified covert sensitization (aversive imagery) plus hypnosis. In Cautela and Rosenstiel (1975), Cautela (1966, 1972), and Lesser (1967), the significant aspects were identified as relaxation and modification of consequences of drinking through aversive imagery. Flannery (1976) used covert aversive imagery and covert modeling. Wisocki (1973) identified homework (imagery trials at home), emphasis on self-control and aversive imagery. Droppa (1973) in a review of behavioral treatment for drug addiction concludes that there is a lack of research which systematically controls for relevant variables. Cahoon and Crosby (1972) in their review of literature found success with a learning based approach in which the therapist selects imagery situations and consequences. Ashem and Donner (1968) identified aversion imagery which produced a phobic response to alcohol and generality of session to subject's environment.

The characteristics which make this imagery study unique follow. (1) This study uses subject directed positive reinforcement whereas identified studies rely on aversive imagery. One study did use covert positive

reinforcement but that study and this one differ significantly in the origin of the reinforcement. In this study, the reinforcement comes from the subject when the therapist asks him to verbalize his positive emotions about himself regarding his imagined coping with the problem situation. The reinforcement originates with the subject whereas in covert positive reinforcement the reinforcing image is a therapist designed scene that will be continually used in therapy with the subject. In this study the therapist provides the direction for the reinforcement but the subject determines how it will be experienced. (2) This study places more responsibility on the subject than described covert methods. In this study the subject selects the problem that will become the imagery situation in the session. (3) This study used a coping model whereas covert positive reinforcement uses a mastery model. In the coping model, the subject performs the desired behavior in spite of his experienced anxiety. In the mastery model, attempts by the therapist are made to alleviate as much anxiety as possible. When the subject begins to feel anxious while imagining the scene, the therapist will have him stop and visualize the reinforcing scene. Then when the subject is not anxious, he will continue visualizing the original scene. (4) This study evaluates treatment outcomes of imagery, relaxation, and the interaction of

imagery and relaxation, whereas past studies evaluated one variable. (5) The imagery in this study is holistic in that there is no limitation as to the focus of the imagery sessions. Imagery sessions deal with any aspect of the subject's life (marital, drinking, vocational, inter-personal), whereas past studies focus only on modifying the consequences of drinking (changing the outcome from pleasurable to unpleasurable). (6) This study is comprehensive in regard to number of subjects. One hundred twenty subjects participated. In the nine studies cited above, the maximum subject number is seven, while four studies have only one subject.

CHAPTER III METHODOLOGY

The review of literature indicates low self-esteem and high anxiety levels are important personality characteristics of the alcoholic. These personality characteristics are significant in that they perpetuate the addictive cycle of alcoholism (Kissin and Begleiter, 1977; Milt, 1977). They become part of the process of alcoholism that distinguishes between alcoholism as a symptom and as a disease. Initially low self-esteem and high anxiety influence drinking, then drinking influences self-esteem and anxiety. When they become interrelated, to the extent they are both cause and effect, the addictive cycle is complete.

Self-esteem is positively correlated with a person's coping skills (Herbert, 1968). The lower a person's self-esteem, the more difficult it is for him to cope. Additionally, the lower a person's self-esteem, the lower his expectations (Williams & Cole, 1968). Lowered expectation of success increases anxiety and reduces successful coping (Hughes, 1969).

As low self-esteem and high anxiety levels are inherent in alcoholism, a treatment procedure that increases self-

esteem and reduces anxiety has been recommended (Cahr, 1970; Tomsovic, 1976). Research investigating this treatment procedure may be useful to those treating alcoholics. This study additionally describes alcoholics along the dimensions of self-esteem and state and trait anxiety. The design of the study, hypotheses, population selection of the sample, instrumentation, research procedures, statistical analysis, and limitation of the study are discussed in this chapter.

Research Design

This study in quasi-experimental research uses a randomized control-group pretest--posttest factorial design. A 2 x 4 factorial design of two classifications of alcoholics and four treatment groups is used. Assignment of subject to treatment group is randomized. The four treatment approaches consist of Control, Progressive Relaxation Training, Guided Imagery Training and Progressive Relaxation/ Guided Imagery Training. In this study, the Control group has not been assigned "no treatment" as in many studies, but receives treatment based on Reality Therapy principles. All three experimental treatment groups and the control group receive five treatment sessions. Therefore, outcome measures for the three experimental treatments are compared to outcome measures of subjects involved in therapy. The

two classifications of alcoholism are First Stage Alcoholics and Episodic/Continuous Alcoholics. These classifications are derived from the subclassifications of alcoholism in the DSM-III.

Because personality characteristics of alcoholics cross all boundaries of sex, age, education, and race, this study addresses two classifications of alcoholics that affect outcome of treatment (Kissin and Begleiter, 1977; O'Leary, Rohsenow, Shau and Donovan, 1977; Tomsovic, 1976). There is significant research to support the belief that the fewer the significant problems an alcoholic has experienced, due to his drinking (marital, employment, financial, legal problems), the greater the potential for successful treatment. Mindlin (1960) found marital status, present economic resources, occupation status and arrest record to be predictors of treatment outcome. The more positive each of these predictors, the greater the chance for success. Zimberg, Wallace and Blume (1978) found that the farther the alcoholism had progressed, the less the chance for recovery. There are additional researchers who support that first stage alcoholics, having minimal losses of their support systems, are better candidates for treatment than those with significant losses (Blum and Blum, 1967; Blane, 1968; Baekeland, 1977; Kissin and Begleiter, 1977).

In the present design in regard to internal validity, between session variations are controlled since they affect both groups equally (Isaac and Michael, 1978). Within-session variations are addressed by treating subjects (Isaac and Michael, 1978). Differential selection is controlled by random selection methods. Maturation and pretesting effects occur equally for all groups. Differential mortality is assessed for nonrandom patterns, and statistical regression is controlled when extreme scores from the same population are randomly assigned to groups (Isaac and Michael, 1978). In regard to external validity, interaction of selection and treatment are controlled because the population from which the subjects are drawn is the same population to which the results will be generalized (Kerlinger, 1973). To avoid reactive effects of experimental procedures, the control group and the experimental groups receive equal attention (Kerlinger, 1973; Isaac and Michael, 1978).

This study examines the effect of treatment using guided imagery on self-esteem, state and trait anxiety, and drinking by the alcoholic. In the treatment of alcoholism, relaxation training, specifically Progressive Relaxation, has been used successfully and has reduced anxiety (Eno, 1975). Because of the interrelationship of relaxation and imagery, imagery has at times been interpreted as a modified relax-

ation procedure. Therefore, the study employs a treatment group using Progressive Relaxation and a treatment group combining Progressive Relaxation and Guided Imagery. Thus the efficacy of imagery as treatment is addressed, along with the individual effect of relaxation and the combined effect of relaxation and imagery.

The dependent variables are the Self-Esteem scale on the Tennessee Self-Concept and the State Anxiety scale and Trait Anxiety scale on the State-Trait Anxiety Inventory. Another dependent variable is the Drinking Questionnaire. At the end of treatment, subjects are asked how many drinks they have consumed and how many times they have wanted (craved) a drink during the preceding two weeks. Two weeks have been found to provide adequate base line data to describe drinking behavior (Bergin and Lambert, 1978; Cahn, 1970; Lowe and Thomas, 1976). After five weeks of treatment, the two week period is used to determine effectiveness of treatment in regard to drinking. Validity of these measures depends on self report, but self report of drinking behavior has been determined to be valid in similar research situations (Sobell and Sobell, 1978). The Drinking Questionnaire determines how many drinks the person has had during the past fourteen days. It also determines how many times the person has wanted to drink.

Research Hypotheses

This study will address the following hypotheses and test for significance at the alpha equals .05 level:

1. Guided Imagery Training will produce no change in self-esteem.
2. Guided Imagery Training will produce no change in state anxiety.
3. Guided Imagery Training will produce no change in trait anxiety
4. Guided Imagery Training will produce no change in actual drinking behavior.
5. Progressive Relaxation Training will produce no change in self-esteem.
6. Progressive Relaxation Training will produce no change in state anxiety.
7. Progressive Relaxation Training will produce no change in trait anxiety.
8. Progressive Relaxation Training will produce no change in actual drinking behavior.
9. Progressive Relaxation/Guided Imagery Training will produce no change in self-esteem.
10. Progressive Relaxation/Guided Imagery Training will produce no change in state anxiety.

11. Progressive Relaxation/Guided Imagery Training will produce no change in trait anxiety.
12. Progressive Relaxation/Guided Imagery Training will produce no change in actual drinking behavior.

Selection of Subjects

The population addressed in this study consists of Florida alcoholic clients with a primary diagnosis of Alcohol Dependence 303.9x based on the Diagnostic and Statistical Manual of Mental Disorders-Third Edition (1980). Results from this study are expected to generalize to treatment of alcoholics nationally because personality characteristics of alcoholics cross all boundaries of sex, age, education, and race (Blane, 1968; Kissin and Begleiter, 1977; O'Leary, Rohsenow, Shau and Donovan, 1977; Tomosovic, 1976; Vanderpool, 1969). This diagnosis is determined by counselors charged with that responsibility by licensed alcoholism facilities under the supervision of the Department of Health and Rehabilitative Services of the State of Florida. Range of education and experience for counselors in this study are B.A. degree to Ph.D. candidate and four to eight years experience in alcoholism treatment.

Subjects were drawn from those in outpatient treatment facilities. No one under the influence of alcohol or the effects of alcohol withdrawal was admitted to the study.

The sample includes both male and female, at least 18 years of age, with a minimum of six years formal education. A sixth grade education is required to complete the Tennessee Self-Concept Scale (Fitts, 1965) and the State-Trait Anxiety Inventory (Spielberger, Gorsuch, and Lushene, 1968).

Three Florida alcoholism programs regulated by the State Department of Health and Rehabilitative Services agreed to participate in the study. Those participating are: the Community Alcoholism Program, North Central Florida Community Mental Health Center, Gainesville; the Immokalee Treatment Center, a satellite of the David T. Lawrence Mental Health Center, Naples; and Southwest Florida Alcoholism Services, Inc. in Fort Myers.

Prospective subjects were asked by counselors to participate in an experimental treatment program. In the presentation to the clients, it was fully explained that no animosity would be expressed if they declined and that their decision would not adversely affect the quality of their treatment. Each volunteering subject read and signed a "Consent to Research" form prior to the experimental procedure. Subjects were not financially reimbursed for their participation and were so informed.

Instrumentation

The instruments used in this study are the Tennessee Self-Concept Scale published in 1965 by William H. Fitts and the State-Trait Anxiety Inventory published in 1970 by Spielberger, Gorsuch and Lushene.

The Tennessee Self-Concept Scale, hereafter called the Scale, was developed because there was a need for a measurement which is easy to read and understand, widely applicable, well standardized and multi-dimensional in the description of the self concept. The Scale consists of 100 statements which the subject uses to describe himself. The Scale is self administering so it can be completed in groups as well as individually with subjects age 12 or older having at least a sixth grade reading level. The range of time needed to complete the Scale is 10-20 minutes. It is also applicable to the whole range of psychological adjustment from healthy, well adjusted people to psychotic patients (Fitts, 1965).

Two forms are available: a Counseling Form and a Clinical and Research Form. The Counseling Form is more appropriate for self interpretation and feedback to subjects. The Clinical and Research Form provides a better understanding of the personality dynamics of the subject, but is also more complex in terms of scoring analysis and interpretation. Since this researcher's primary use for the Scale is a valid and reliable measure of self-esteem,

and both the Counseling Form and the Counseling and Research Form provide the same P Score (self-esteem score), the Counseling Form is used in this study. Additionally, the Counseling Form is easier to score and provides eleven Self Scores.

The Counseling Form of the Scale provides scores describing the following personality dynamics: a Self Criticism Score measuring defensiveness; a P Score, reflecting overall level of self-esteem; Identity (What I am); Self Satisfaction Score; Behavior Score (What I do); Physical Self (subject's view of body); Moral Ethical Self (feelings of good or bad); Personal Self (personal worth); Family Self (worth as a family member); Social Self (self in relation to others); Variability (variability in perception of self); and Distribution (certainty about way subject sees self). Scores may be displayed on a profile sheet and there they may be converted to percentile scores. The Scale may be either hand or computer scored. For this study, the Scale is hand scored.

The test-retest reliability coefficients for both forms of the TSCS range from .60 to .92, with most coefficients in the .70 to .80 range (Fitts, 1965). The classification system used for Raw Scores and Column Scores has been determined to be valid which assures content validity (Fitts, 1965).

Between groups validity has been substantiated by Collins, Burger, and Doherty (1970), Herbert (1968), and Hughes (1969). Bergin and Lambert (1978) found the TSCS to be both valid and reliable. Also supporting the validity of the TSCS scores are Duncan (1966) and Resnick, Rauble, and Osipow (1970). Gross and Adler (1970) have also substantiated content validity for the TSCS. Additionally a high correlation was found to exist between the Minnesota Multiphasic Personality Inventory and the Scale on measurements of self-esteem (Fitts, 1976).

Wylie (1961) in her review of personality measuring instruments found the TSCS to have discriminant validity. This finding was verified by Williams and Cole (1968), Vanderpool (1969), and Lipsett (1958). Bergin and Garfield (1978) in their review of self-concept measures recommend the TSCS as a valid and reliable instrument.

The State-Trait Anxiety Inventory is comprised of separate self-report scales for measuring two distinct anxiety concepts: State Anxiety (A-State) and Trait Anxiety (A-Trait). The State-Trait Anxiety Inventory (STAI) A-Trait scale consists of twenty statements that ask people to describe how they "generally" feel. The A-State Scale also consists of twenty statements, but the instructions require subjects to indicate how they "feel at a particular moment in time." Most people with a fifth or sixth grade

reading ability have no trouble understanding and responding to all STAI items. The Inventory has no time limit and range of time to complete the inventory is 6-8 minutes for college educated to 20 minutes for less educated and/or mentally disturbed. Scores can be converted to percentile rank using norm tables. The STAI can be either hand or computer scored.

Test-retest reliability correlations for the STAI A-Trait are quite adequate ranging from .73 to .86 while those for the A-State scale should reflect the influence of unique situational factors existing at the time of testing. Alpha reliability test-retest correlations for the A-State scales were computed and found to be .83 to .92 (Spielberger, Gorsuch, and Lushene, 1970). Alpha reliability coefficients are typically high under psychological stress. On separate occasions, it was determined to be .92 and .94. Evidence of internal consistency was provided by item-remainder correlations. Item-remainder correlations for both A-State and A-Trait were all above .50 (Spielberger, Gorsuch, and Lushene, 1970).

Validity and reliability of the STAI have been supported by Hodges and Felling (1970) and O'Neal, Spielberger and Hansen (1969). Concurrent validity of the STAI A-Trait scale and the IPAT Anxiety Scale was found to be .75 (Cattell and Scheiner, 1963); with the Taylor Manifest Anxiety

(1953) it was .80; and with the Zuckerman Affect Adjective Checklist (1960), it was .58. High construct validity was supported with the pre- and posttest of nine hundred seventy-seven undergraduate students at Florida State (Spielberger, Gorsuch and Lushene, 1968).

The Drinking Questionnaire (Appendix A) is a questionnaire developed by the researcher to obtain two pieces of information: number of drinks consumed and number of times the respondent wanted to drink during the past two weeks (14 days). The quality of the information obtained in the Drinking Questionnaire depends on the validity of self report. Self report has been determined to be an accurate means of obtaining data regarding the drinking behavior of an alcoholic both while in treatment and prior to treatment (Guze, Tuason, Stewart, and Picken, 1963; Sobell, Sobell, and Samuels, 1974; Sobell and Sobell, 1975; Sobell and Sobell, 1978; Sobell, Maisto, Sobell and Cooper, 1979). Sobell, Maisto, Sobell and Cooper (1979) established the accuracy of self reports to be in the .79 to .98 range. One of the reasons for this accuracy is attributed to the importance of drinking to the alcoholic. Any period of drinking or abstinence becomes significant and is remembered by the alcoholic. In the six studies supporting the validity of self report of drinking behavior, they all

directly asked the subject how many drinks (or how much) he had been drinking. The Drinking Questionnaire follows this example and asks the subject directly how many drinks he has had and how many times he has wanted to drink.

Procedure

Five therapists participated in the study, three at Southwest Florida Alcoholism Services, Inc., one at the Community Alcoholism Program, and one at the Immokalee Treatment Center. To eliminate any experimenter bias, the researcher is not a therapist in this study. The therapists participated in a two hour training session. An outline identifying the topics covered in this training session is provided in Appendix B. During the training session, the principles of imagery as treatment, the four basic treatment procedures, and a rationale for each were explained. Therapists also role played an imagery treatment session and received a cassette of the relaxation procedure to be used in treatment sessions.

Four treatment groups are utilized: Control, Progressive Relaxation Training, Guided Imagery Training and Progressive Relaxation/Guided Imagery Training. A diagram of treatment groups including content and time frame is provided in Appendix C. The Control group received sixty minutes (100% of the session) of verbal therapy based on Reality Therapy principles. Each of the other three groups received

30 minutes (50% of the session) based on Reality Therapy principles and the remaining time based on the group designation: Progressive Relaxation (30 minutes or 50%), Guided Imagery (30 minutes or 50%), and Progressive Relaxation/Guided Imagery (30 minutes or 50%). Each treatment group had five sessions. Cautela (1966, 1967, 1972) has found covert sensitization to be successful in two to three one hour sessions. Ashem and Donner (1968) found covert sensitization to be successful with alcoholics in five thirty minute treatments. The amount of time spent in treatment sessions in this study is equal to that in Cautela's and Ashem and Donner's successful studies. By using four groups, the specific effects of Progressive Relaxation, Guided Imagery, and the interaction of Progressive Relaxation and Guided Imagery was determined.

All subjects in this study have a diagnosis of 303.9x, Alcohol Dependence or Alcoholism. The purpose of the fifth digit is to identify course of illness. Four categories are provided by the DSM-III (1980). 0 indicated Unspecified or First State; 1 indicates Continuous; 2 indicates Episodic; and 3 indicates In Remission. Actually these subclassifications describe type of drinking. Episodic refers to circumscribed maladaptive periods of use while Continuous refers to regular maladaptive use. In this study, subjects are divided according to two classifications. One group has

a diagnosis of 303.90 or first Stage Alcoholism. The other classification consists of subjects whose course of illness is more extensive than the first stage, requiring a diagnosis of 303.92 or 303.93. The two classifications are First Stage and Continuous/Episodic. Criteria for the classification of First Stage are: no criminal charges, not more than one driving offense, no loss of employment, and no divorce due to drinking. If the subject does not meet these criteria, then the subject is classified Continuous/Episodic.

Each subject volunteering for the study was assigned to a treatment group on a random basis. For each therapist, the first client agreeing to participate in the study joined the Control group. The second joined the Progressive Relaxation Training group; the third, the Guided Imagery Training group; the fourth, the Progressive Relaxation/Guided Imagery group. Then the schedule is repeated. When a subject drops out, the next subject fills that vacancy, joining the vacated treatment group. The normal attrition rate (those dropping out before completing four sessions) at Southwest Florida Alcoholism Services is 43%. Had there been an abnormal attrition rate in any one treatment groups, attempts would have been made to obtain the necessary number of subjects to equal the number in the other groups. If that could not be

accomplished, then the drop outs from that group would have been contacted to determine the reason for their early termination.

If a subject became intoxicated and his intoxication interfered with participation in the study, then he was dropped from the study. At the termination of the study, the treatment groups are compared in regard to number of drop outs. Treatment procedures are presented on an individual basis. Each Progressive Relaxation, Guided Imagery and Progressive Relaxation/Guided Imagery session involves only the subject and therapist.

Subjects in the study were asked to complete the Tennessee Self-Concept Scale (TSCS), the State-Trait Anxiety Inventory (STAI), and the Drinking Questionnaire (Appendix A). The Tennessee Self-Concept Scale requires a sixth grade reading level and the Spielberger State-Trait Inventory requires an eighth grade reading level. Based on the highest grade completed, indicated by potential subjects on the intake form and quality of their completing the form, the therapists made a determination whether a reading test was needed. If the therapist suspected a prospective subject's reading level was not eighth grade, a reading test was administered. The test selected was the Botel Reading Inventory A Word Opposites Test (Botel, 1970). This test is used by the Lee County School System and provides reading

levels one through twelve. Those completing the inventory but not achieving an eighth grade reading level were not counted in this study.

In most instances success of treatment is measured only by abstinence, but alcoholism is a disease that affects all facets of a person's existence; therefore the vehicle for evaluating treatment must be multi-dimensional. The need for a multi-dimensional evaluation has been expressed for a number of years (Wallerstein, 1956; Mindlin, 1960; Hill and Blane, 1970; Lowe and Thomas, 1976; Baekeland, 1977). In this study success is measured along the dimensions of actual drinking behavior, self-esteem, state anxiety, and trait anxiety. Following the fifth session, each subject completes the Drinking Questionnaire, Tennessee Self-Concept Scale, and State Trait Anxiety Inventory.

The focus of the Control group is Reality Therapy. Following are important concepts to the treatment of the Control group (Reality Therapy): the therapist becomes involved with the client; the therapist demonstrates that he cares for the client and that the client is important; the client is helped to accept his alcoholism; he is helped to understand he cannot control his drinking; he is helped to realize that he is responsible for this behavior; focus is on the client identifying his needs and outlining proce-

dures for meeting his needs. These concepts follow the basic outline of Glasser's Reality Therapy (1965).

The Progressive Relaxation Training group received five sessions of relaxation therapy. To assure that treatment is standardized, the relaxation session included a thirty minute cassette of Jacobson's Progressive Relaxation exercise with soft music in the background. The exercise was produced locally from a script (Appendix D). The remainder of the session follows the Reality Therapy guidelines previously described. Jacobson's Progressive Relaxation exercise was chosen because of its history of effectiveness in reducing anxiety (Wroblewski, 1977). Progressive Relaxation has been successfully used to reduce both State and Trait anxiety in alcoholics (Eno, 1975; Parker, Gilbert, and Thoreson, 1978). Additionally, Progressive Relaxation has improved coping in alcoholics (Maloof, 1975). Reduction in drinking has also been achieved through relaxation training (Benson, Greenwood, and Klemchuk, 1975). Strickler, Bigelow, Wells and Liebson (1977) have found that one brief session of relaxation training is sufficient to reduce alcoholic's anxiety levels and prior relaxation instructions can protect alcoholics from anxiety produced by drinking related stimuli.

Prior to the Guided Imagery Training sessions, an intake evaluation was obtained. During this procedure, specific problem areas were identified. These problem areas were verified during treatment planning at the end of the evaluation. When the client agreed to become a subject in the study, he was asked to describe a situation that typically represents that problem. From that situation, specific descriptive characteristics were obtained. This was done so the therapist could verbally present the characteristics to assist the subject in visualizing the situation. An interview outline has been developed to assist the therapist in identifying these characteristics. This Interview Outline is found in Appendix E.

In initiating the Guided Imagery session, the therapist asks the subject to find a comfortable position and take a few deep breaths to relax. After the subject is relaxed, the therapist directs the subject in visualizing one of the scenes he has identified as problematic (Cautela, 1967, 1970). When the scene is clear, the subject raises his right index finger. The therapist then asks the subject to describe the scene. It has been found that having subjects self-verbalize as they visualize enhances the effectiveness of the visualization process (Meichenbaum, 1971, 1976, 1977). This increases the vividness of the imagery.

The subject is instructed to view the scene as he would through his own eyes, not as he would if he were viewing a film in which he were an actor (Kazdin, 1976, 1979). The subject verbally describes the scene and describes the coping behavior he is performing. After the subject visualizes his coping behavior, the therapist assists him in processing his emotions. The subject identifies his emotions from the time he began to clearly visualize the scene until he has accomplished his coping behavior. Emphasis is placed on how he feels about himself after accomplishing the coping behavior. A coping model has been chosen over a mastery model because it has been more efficient in producing behavioral change (Kazdin, 1973; Meichenbaum, 1971). In this situation, coping is defined as being initially anxious but performing the desired behavior in spite of the anxiety. Mastery is defined as performing the desired behavior and experiencing no undesirable emotion.

Emphasis is placed on the subject's emotions regarding himself after he accomplishes the coping behavior. It has been found that performing the desired behavior visually and having a favorable consequence afterward increases the actual desired behavior (Ladouceur, 1974; Marshall, Boutilier, and Minnes, 1974).

After successfully visualizing the coping behavior and processing the associated emotion, the imagery procedure is repeated. The subject visualized the same scene, his coping behavior, and identified and discussed the emotions he experienced in that situation. Repeating the same scenes and the favorable emotional consequences tend to increase the chances of performing the coping behavior (Cautela, 1967, 1970; Hurley, 1976; Meichenbaum, 1976, 1977).

A new situation is introduced each imagery session. But prior to introduction of the new situation, each subject repeats the previous scenes in which he visualized successful coping behavior. The Progressive Relaxation/Guided Imagery Training combines Progressive Relaxation Training and Guided Imagery Training in one-half of the sixty minute session. The exact procedure for each has been previously described.

Statistical Analysis

Outcome measures are the Tennessee Self-Concept Scale, State-Trait Anxiety Inventory, and Drinking Questionnaire. Data collected from these scales produce measures of self-esteem, state anxiety, trait anxiety, number of drinks consumed, and number of times wanted a drink. Data from the outcome measures were collected prior to the treatment sessions and after the treatment sessions were concluded.

After administration of the outcome measures, the data were prepared for statistical analysis. Demographics collected were age, sex, race, education, and length of alcoholic drinking.

Independent variables are the four treatments, including the control group. The other factor affecting treatment outcome is classification of alcoholism. The effect of First Stage and Continuous/Episodic Alcoholism on outcome is evaluated.

A two-way analysis of variance (ANOVA) is used for determining significant differences in the two by four table of two alcoholic classifications and four treatments. The two-way analysis of variance is appropriate when studying the effects of two independent variables on a single criterion. The underlying assumptions of analysis of variance are randomly selected subjects from normally distributed populations, homogeneity of variance, and proportionality of cell frequencies (Roscoe, 1975; Isaac and Michael, 1978). A Cochran C Test is used to test for homogeneity of variance. The Cochran C Test was chosen because it is conservative and is more powerful than the Hartley F max Test, if five samples or more are used (Roscoe, 1975). The level of significance for all tests is set at the .05

level. When a significant F-ratio is obtained, the differences between groups are analyzed. Also due to pre- and posttesting, significant increases or decreases in scores are explored. Significant increases in self-esteem indicate that treatment improves the subject's self-esteem. A significant decrease in state anxiety, trait anxiety, number of drinks consumed, and number of times the subject wanted to drink suggests treatment improves that particular personality characteristic or behavior.

Limitations of the Study

A common concern of quasi-experimental research is generalizability (Isaac and Michael, 1978). This is a concern because research sites have been limited to three. However, the core personality characteristics have been so well defined in previous chapters that outcome of treatment with one group of alcoholics should generalize to others (Chafetz, Blane and Hill, 1970; Kissin and Begleiter, 1977; Blane, 1968).

Another concern is the use of five therapists. Of concern is the effect on treatment outcome due to individual therapist characteristics. Recognizing this, each therapist provides all four treatments.

Despite the possible limitation of generalizability, the study has the potential for adding knowledge about

the effectiveness of imagery treatment, and the effect of imagery on specific personality characteristics. There is an identified need to substantiate the effectiveness of treatment using imagery (Cautela and Rosenstiel, 1975). Low self-esteem, high state and trait anxiety have been identified as characteristics common to alcoholics (Berg, 1971; Masserman, 1976). Additionally, the increase of self-esteem and decrease of state and trait anxiety increases the probability of sobriety (Gross and Adler, 1970; Higgins and Marlatt, 1975). Lack of information identifying the effects of imagery on self-esteem, state and trait anxiety, and the successful treatment of alcoholics indicate a need for that evaluation.

CHAPTER IV

FINDINGS

The sample for the study was composed of fifty-nine males and sixty-one females. The mean age was 38.25 with a standard deviation of 10.2. The mean number of years of education was 10.73 with a standard deviation of 1.56. There were one hundred eleven white and nine non-white subjects. The mean length of alcoholic drinking was 4.42 years for the total sample. For First Stage alcoholics, it was 2.88 years with a standard deviation of 1.61. For Continuous/Episodic, the mean length of alcoholic drinking was 5.97 with a standard deviation of 3.23.

Forty-eight subjects dropped out of the study. The normal attrition rate at Southwest Florida Alcoholism Services is 43%. Attrition rate for this study is 28.5%. See Table 1. A chi-square of independence was used to determine if classification of alcoholism and treatment groups were independent based on attrition. These variables were found to be independent. Antabuse was used by 68% of the subjects, but it was not considered an influence on treatment, as antabuse has not been proven to be a treatment outcome determinant (Mindlin, 1960).

For this study, the mean pre-test self-esteem score is 304.04 and the standard deviation is 37.85.

This compares with the Fitts (1965) standardization group, whose mean self-esteem score was 345.57 and standard deviation was 30.70.

TABLE 1
ATTRITION OF SUBJECTS

	First Stage	Continuous/ Episodic	Total
Control	5	8	13
Progressive Relaxation	6	9	15
Guided Imagery	4	7	11
Progressive Relaxation/ Guided Imagery	2	7	9
Total	17	31	48

The mean state anxiety score is 48.47 with a standard deviation of 16.67. The mean trait anxiety score is 50.88 with a standard deviation of 8.33. Anxiety scale means were similar to the means for neuropsychiatric patients (Spielberger, Gorsuch, Lushene, 1970). The state mean was 47.74 and the trait mean was 46.62. For comparison, the state means for male college freshmen, under-

graduates, and high school students were 38.07, 37.68 and 39.37, respectively. The trait means were 40.01, 36.35, and 36.99, respectively.

Because some of the differences between pre- and posttest scores were negative, and the computer does not accept negative numbers, it was necessary to convert the differences to positive numbers. To accomplish this, a constant was added to each pre- and posttest score difference. Adding a constant does not change the difference between the scores but does enable the computer to make the desired calculations. Following are the constants and the scales to which they were added: twenty-one to the Tennessee Self-Concept Scale, fifteen to the State Anxiety Scale, twelve to the Trait Anxiety Scale, and thirty-six to the Drinking Questionnaire.

An analysis of variance (ANOVA) was chosen to determine the significance of changes on the criterion variables due to treatment. Underlying assumptions for analysis of variance as a parametric technique are randomly selected subjects from normally distributed populations, homogeneity of variance, and proportionality of cell frequencies (Isaac and Michael, 1978). All subjects were selected randomly from the out-patient population at three treatment centers in Florida. All cells contain fifteen subjects. A Cochran C Test was used to test for

homogeneity of variance. In all cases the hypothesis was retained that there were no significant differences between the variances. The tabled value is .638 where $k=2$, $n=60$. The calculated Cochran C Test statistics for pre-tests on the Tennessee Self-Concept Scale, State Anxiety Scale, and Trait Anxiety Scale were .567, .543, and .520, respectively.

The research hypotheses for this study were written in the null form. It was predicted that Progressive Relaxation Training would produce no change in self-esteem, state anxiety, trait anxiety or actual drinking behavior and these hypotheses were accepted. Additionally, the two classifications of alcoholics, First Stage and Continuous/Episodic, produced no significant differences in treatment outcomes.

It was predicted that Guided Imagery Training would produce no change in self-esteem, state anxiety, trait anxiety or actual drinking behavior, and no change did occur in self-esteem or actual drinking behavior. But, Guided Imagery Training did significantly reduce state anxiety more than the Control Group (Reality Therapy based group). Treatments were compared using an analysis of variance that yielded an F of 7.546, significant at the .05 level. Differences between Guided Imagery Training and the control group produced a $t=2.745$. This data is presented in Table 2.

TABLE 2
ANOVA SUMMARY TABLE FOR TREATMENT AND STATE ANXIETY
DIFFERENCES

Source of Variation	DF	Sum of Squares	Mean Squares	F
Between Groups	3	192.49	64.16	7.546
Within Groups	116	986.30	8.50	
Total	119	1178.79		

*p < .05

Group Statistics

Group	N	Mean	SD
Control	30	12.93	3.28
Relaxation	30	11.87	2.75
Imagery	30	10.87	2.40
Relax/Imagery	30	9.50	3.15

test Between Group means (Values of p are for two-tailed test).

t = 2.745
p = .006

Control
Imagery

t = 4.56
p = .000

Control
Relaxation/Imagery

t = 3.143
p = .001

Relaxation
Relaxation/Imagery

With Continuous/Episodic alcoholics, Guided Imagery Training significantly reduced state anxiety more than either the Control Group or Progressive Relaxation Training. Analysis of variance yielded an F of 4.53, significant at the .05 level. These data are presented in Table 3.

Guided Imagery Training significantly reduced trait anxiety more than the Control Group and the Progressive Relaxation Group. Analysis of variance yielded an F of 8.92, significant at the .05 level. Differences between Guided Imagery Training and the Control Group and the Progressive Relaxation Group produced $t=2.227$ and $t=3.199$, respectively. These data are presented in Table 4. With both First Stage and Continuous/Episodic alcoholics, Guided Imagery Training reduced trait anxiety significantly more than Progressive Relaxation Training. With First Stage alcoholics, a $t=2.421$ was found. With Continuous/Episodic alcoholics, a $t=2.017$ was found. Both are significant at the .05 level. These data are presented in Tables 5 and 6.

The null hypotheses were accepted for Progressive Relaxation/Guided Imagery Training in that no change was produced in self-esteem, or actual drink-

TABLE 3
ANOVA SUMMARY TABLE FOR TREATMENT AND STATE ANXIETY
DIFFERENCES - LIMITED TO CONTINUOUS/EPISODIC ALCOHOLIC

Source of Variation	DF	Sum of Squares	Mean Squares	F
Between Groups	3	113.60	37.87	4.53
Within Groups	56	458.13	8.36	
Total	59	581.73		

*p < .05

Group Statistics

Group	N	Mean	SD
Control	15	13.60	3.74
Relaxation	15	12.40	2.75
Imagery	15	10.00	2.42
Relax/Imagery	15	10.93	2.46

test Between Group means (Values of p are for two-tailed test).

t = 3.41
p = .000

Control
Imagery

t = 2.526
p = .016

Control
Relaxation/Imagery

t = 2.273
p = .039

Imagery
Relaxation/Imagery

TABLE 4
ANOVA SUMMARY TABLE FOR TREATMENT AND TRAIT ANXIETY
DIFFERENCES

Source of Variation	DF	Sum of Squares	Mean Squares	F
Between Groups	3	272.03	90.68	8.92
Within Groups	116	1179.27	10.17	
Total	119	1451.3		
*p < .05				

Group Statistics

Group	N	Mean	SD
Control	30	9.87	4.21
Relaxation	30	10.67	2.35
Imagery	30	8.03	2.20
Relax/Imagery	30	6.83	3.54

test Between Group means (Values of p are for a two-tailed test)

t = 2.227
p = .045

Control
Imagery

t = 3.685
p = .000

Control
Relaxation/Imagery

t = 3.199
p = .000

Relaxation
Imagery

t = 4.656
p = .000

Relaxation
Relaxation/Imagery

TABLE 5
ANOVA SUMMARY TABLE FOR TREATMENT AND TRAIT ANXIETY
DIFFERENCES - LIMITED TO FIRST STAGE ALCOHOLICS

Source of Variation	DF	Sum of Square	Mean Squares	F
Between Groups	3	146.19	48.73	4.049
Within Groups	56	674.00	12.04	
Total	59	820.19		

*p < .05

Group Statistics

Group	N	Mean	SD
Control	15	9.67	4.24
Relaxation	15	10.73	2.43
Imagery	15	7.67	2.26
Relax/Imagery	15	6.80	4.38

test Between Group Means (Values of p are for a two-tailed (test))

t = 2.263
p = .040

Control
Relaxation/Imagery

t = 2.421
p = .023

Relaxation
Imagery

t = 3.105
p = .011

Relaxation
Relaxation/Imagery

TABLE 6
ANOVA SUMMARY TABLE FOR TREATMENT AND TRAIT ANXIETY
DIFFERENCES - LIMITED TO CONTINUOUS/EPISODIC ALCOHOLICS

Source of Variation	DF	Sum of Squares	Mean Squares	F
Between Groups	3	129.12	43.04	4.822
Within Groups	56	499.87	8.93	
Total	59	628.98		
*p < .05				

Group Statistics

Group	N	Mean	SD
Control	15	10.07	4.32
Relaxation	15	10.60	2.35
Imagery	15	8.40	2.16
Relax/Imagery	15	6.87	2.61

test Between Group means (Values of p are for a two-tailed test)

t = 2.933	Control
p = .002	Relaxation/Imagery
t = 2.017	Relaxation
p = .078	Imagery
t = 3.422	Relaxation
p = .000	Relaxation/Imagery

TABLE 7
ANOVA SUMMARY TABLE FOR TREATMENT AND STATE ANXIETY
DIFFERENCES - LIMITED TO FIRST STAGE ALCOHOLICS

Source of Variation	DF	Sum of Squares	Mean Squares	F
Between Groups	3	161.52	53.84	7.316
Within Groups	116	986.3	8.5	
Total	119	1178.79		
*p < .05				

Group Statistics

Group	N	Mean	SD
Control	15	12.27	2.71
Relaxation	15	11.33	2.74
Imagery	15	11.73	2.12
Relax/Imagery	15	8.07	3.17

test Between Group mean (Values of p are for a two-tailed test).

t = 4.240	Control
p = .000	Relaxation/Imagery
t = 3.298	Relaxation
p = .000	Relaxation/Imagery
t = 3.702	Imagery
p = .000	Relaxation/Imagery

ing behavior. However, Progressive Relaxation/Guided Imagery Training significantly reduced state and trait anxiety more than either the Control Group or Progressive Relaxation Training. These data are presented in Tables 2 and 4. The difference between Progressive Relaxation/Guided Imagery Training and the Control Group based on state anxiety, was $t=4.56$, and between Progressive Relaxation/Guided Imagery Training and Progressive Relaxation Training was $t=3.143$. Both are significant at the .05 level. The difference between Progressive Relaxation/Guided Imagery Training and the Control Group based on trait anxiety was $t=3.685$, and between Progressive Relaxation/Guided Imagery Training and Progressive Relaxation Training was $t=4.656$. Both are significant at the .05 level.

With First Stage alcoholics, Progressive Relaxation/Guided Imagery Training significantly reduced state anxiety more than Guided Imagery Training alone. Analysis of variance yielded an F of 7.316 between these two treatment approaches. Differences between Progressive Relaxation/Guided Imagery Training and Guided Imagery Training yielded $t=3.702$. This is significant at the .05 level. Table 7 presents these data.

CHAPTER V DISCUSSION

This study was designed to test the efficacy of Guided Imagery Training as a treatment of alcoholics. To test this and to evaluate the component parts of Progressive Relaxation/Guided Imagery Training, four treatment groups were employed: Control, Progressive Relaxation Training, Guided Imagery Training, and Progressive Relaxation/Guided Imagery Training. The Control group received treatment as normally provided by three outpatient treatment programs from which the subject were selected. Therefore, results of the three experimental groups are compared to the outcome of the three treatment program approaches. The approaches of the three treatment programs follow the Reality Therapy model. Therefore, results of the experimental groups are compared to the results of the Reality Therapy.

Treatment of addictive disorders with imagery seems to originate with Cautela (1966, 1967, 1970, 1971, 1972, 1973; Cautela and Rosenstiel, 1975). Cautela has titled his work Covert Conditioning. In this approach, aversive imagery is paired with the behavior desired to be extinguished. Recently, positive reinforcing imagery has been

utilized, but the approach continues to focus only on the addictive behavior. The therapist continues to describe the scene, and to choose the reinforcing scene (i.e. ice cream cone).

Implications

The demographics verify three previous research findings about alcoholics. Self-esteem is low and state and trait anxiety are high. The mean self-esteem score is 304.042. For Fitts (1965), the mean self-esteem score for the adult population is 345.57. The anxiety scores for subjects closely resemble those of neuropsychiatric patients (Spielberger, Gorsuch, and Lushene, 1970). The state and trait anxiety scale means for this study are 48.47 and 50.88, respectively. The neuropsychiatric patients' state and trait means are 47.74 and 46.62, respectively.

Findings from this study support the following positions. Progressive Relaxation/Guided Imagery Training significantly reduces state and trait anxiety more than either Progressive Relaxation Training or Reality Therapy. Guided Imagery Training significantly reduces state and trait anxiety more than Reality Therapy. Progressive Relaxation Training did not significantly reduce state and trait anxiety more than Reality Therapy. Two effective short term (five sessions) anxiety treatment

approaches (Guided Imagery and Progressive Relaxation/Guided Imagery Training) have been identified.

Imagery is an integral part of Progressive Relaxation/Guided Imagery Training in that this combination training is significantly more effective in reducing state and trait anxiety than Progressive Relaxation Training. However, this combination training is not significantly more effective than Guided Imagery. This assertion is further substantiated by the fact that Guided Imagery Training significantly reduced state and trait anxiety more than Reality Therapy, whereas Progressive Relaxation Training did not.

Guided Imagery Training in this study differs substantially from imagery described in previous research. In this study, the subject chooses situations he wants to cope with more effectively. Subject chosen situations are the focus of imagery sessions. Imagery sessions are not limited to extinguishing the addictive behavior. Although the therapist initiates the scene (situation), the subject completes it and verbalizes the scene as he "sees" it. The subject reinforces his coping behavior by verbalizing his positive emotions about his coping behavior. The primary emphasis is on coping, not extinguishing addictive behavior.

One implication from the study is that a significant change in drinking behavior should not be expected in short term treatment. Significant changes in actual drinking behavior during treatment did not occur. Those who were drinking during the base period before treatment, reduced their drinking but not significantly. Those who were abstinent during the base period, remained abstinent or did not significantly increase their drinking.

Both state and trait anxiety can be affected in a short treatment time (five weeks/five sessions). Anxiety was significantly reduced, but drinking behavior was not significantly changed. This indicates that drinking behavior is only partially affected by anxiety and does not yield to a reduction of anxiety.

Improved self-esteem was not found to be a realistic short term treatment goal. One explanation is that self-esteem is a result of lifestyle. Therefore, before self-esteem substantially improves, the subject may need more psychological distance between his past life and present lifestyle. This psychological distance could only come about with time, when the contrast between past life and present lifestyle becomes more apparent.

Recommendations

This study verified that alcoholics have low self-esteem and high state and trait anxiety. Low self-esteem and high anxiety necessitate a treatment approach that addresses these problems.

A multi-measure evaluation of treatment is recommended. This study illustrates the problem, if only one criterion measure is used. If either anxiety or drinking behavior was used as the criterion measure, then the results would be skewed either positively or negatively. Therefore, a comprehensive criterion measure could contain psychological and behavioral components. Psychological components could include self-esteem, state and trait anxiety. Behavioral components could include drinking, legal involvement, employment, and marital situation.

Based on the results of this study, both Guided Imagery Training and Progressive Relaxation/Guided Imagery Training are successful in reducing anxiety in alcoholics. These treatments become notable because the two approaches are effective; treatment period is brief; and required training for both approaches is minimal. Although Guided Imagery Training and Progressive Relaxation/Guided Imagery Training were effective in five sessions in reducing state and trait anxiety, it is recommended that the number of treatments be extended as a maintenance measure. It is also recommended that the treatment period be increased to positively modify self-esteem and actual drinking behavior.

APPENDIX A

Drinking Questionnaire

During the past two weeks (14 days) how many drinks
have you had? _____

(Drink = one beer; one glass of wine; one mixed drink;
if double = two drinks; if bottle, give size)

How many times have you wanted to drink? _____

APPENDIX B

Outline: Imagery Training Session for Therapists

- I. Definition: Imagery
- II. Effect of Imagery on Behavior
(Assagioli; Jacobson; Pribram; Krop, Calhoon,
Verrier; Rosenthal and Reese)
- III. Imagery and Man's Potential
- IV. Modeling
(Bandura)
- V. Covert Modeling
(Kazdin)
- VI. Covert Sensitization
(Cautela)
- VII. Covert Positive Reinforcement
(Cautela)
- VIII. Covert Negative Reinforcement
(Cautela)
- IX. Covert Extinction
(Cautela)
- X. Cognitive Behavior Modification
(Meichenbaum)
- XI. Purpose of Study
- XII. Experimental Design
- XIII. Experimental Procedure
- XIV. Imagery Procedure
- XV. Relaxation Procedure

- XVI. Guided Imagery/Relaxation Procedure
- XVII. Conclusion

(Expected Training Time 120 minutes)

APPENDIX C

Diagram of Treatment Groups

<u>Session</u>	<u>Treatment</u>	<u>Time</u>
<u>Control</u>		
1	Reality Therapy	60 mins.
2	Reality Therapy	60 mins.
3	Reality Therapy	60 mins.
4	Reality Therapy	60 mins.
5	Reality Therapy	60 mins.
<u>Progressive Relaxation</u>		
1	Progressive Relaxation	30 mins.
	Reality Therapy	30 mins.
2	Progressive Relaxation	30 mins.
	Reality Therapy	30 mins.
3	Progressive Relaxation	30 mins.
	Reality Therapy	30 mins.
4	Progressive Relaxation	30 mins.
	Reality Therapy	30 mins.
5	Progressive Relaxation	30 mins.
	Reality Therapy	30 mins.
<u>Imagery</u>		
1	Imagery	30 mins.
	Reality Therapy	30 mins.
2	Imagery	30 mins.
	Reality Therapy	30 mins.
3	Imagery	30 mins.
	Reality Therapy	30 mins.
4	Imagery	30 mins.
	Reality Therapy	30 mins.
5	Imagery	30 mins.
	Reality Therapy	30 mins.
<u>Progressive Relaxation/ Imagery</u>		
1	Progressive Relaxation	15 mins.
	Imagery	15 mins.
	Reality Therapy	15 mins.

2	Progressive Relaxation	15 mins.
	Imagery	15 mins.
	Reality Therapy	30 mins.
3	Progressive Relaxation	15 mins.
	Imagery	15 mins.
	Reality Therapy	30 mins.
4	Progressive Relaxation	15 mins.
	Imagery	15 mins.
	Reality Therapy	30 mins.
5	Progressive Relaxation	15 mins.
	Imagery	15 mins.
	Reality Therapy	30 mins.

APPENDIX D

Relaxation Techniques

Relaxation of Arms (time 4-5 minutes)

Settle back as comfortably as you can. Let yourself relax to the best of your ability... Now, as you relax like that, clench your right fist, just clench your fist tighter and tighter and study the tension as you do so. Keep it clenched and feel the tension in your right fist hand, forearm... and now relax. Let the fingers of your right hand become loose, and observe the contrast in your feelings... Now, let yourself go and try to become more relaxed all over... Once more, clench your right fist really tight...hold it; and notice the tension again... Now let go, relax; your fingers straighten out, and you notice the difference once more... Now repeat that with your left fist while the rest of your body relaxes; clench that fist tighter and feel the tension... and now relax. Again enjoy the contrast... Repeat that once more, clench the left fist, tight and tense... Now do the opposite of tension...relax and feel the difference. Continue relaxing like that for awhile... Clench both fists tighter and tighter, both fists tense... study the sensations...and relax; straighten out your fingers and feel that relaxation. Continue relaxing your hands and forearms more and more... Now bend your elbows and tense your biceps, tense your biceps; tense them harder and study the tension feelings...alright...straighten out your arms, let them relax and feel that difference again. Let the relaxation develop... Once more, tense your biceps; hold the tension and observe it carefully...straighten the arms and relax; relax to the best of your ability... Each time, pay close attention to your feelings when you tense up and when you relax. Now straighten your arms, straighten them so that you feel most tension in the triceps muscles along the back of your arms; stretch your arms and feel that tension... And now relax. Get your arms back into a comfortable position. Let the relaxation proceed on its own. The arms should feel comfortably heavy as you allow them to relax... Straighten the arms once more so that you feel the tension in the triceps muscles; straighten them, feel the tension...and relax. Now let's concentrate on pure relaxation in the arms without any tension. Get your arms comfortable and let them relax further and further. Continue relaxing your arms ever further. Even when your arms seem fully relaxed, try to go that extra bit further; try to achieve deeper and deeper levels of relaxation.

Relaxation of Facial Area with Neck, Shoulders,
and Upper Back (time 4-5 minutes)

Let all your muscles go loose and heavy. Just settle back quietly and comfortably. Wrinkle up your forehead now; wrinkle it tighter... And now stop wrinkling your forehead, relax and smooth it out. Picture the entire forehead and scalp becoming smoother as the relaxation increases... Now frown and crease your brows and study the tension... Let go of the tension again. Smooth out the forehead once more... Now close your eyes tighter and tighter... feel the tension... and relax your eyes. Keep your eyes closed, gently, comfortably, and notice the relaxation... Now clench your jaws, bite your teeth together; study the tension throughout the jaws... Relax your jaws now. Let your lips part slightly... Appreciate the relaxation... Now press your tongue hard against the roof of your mouth. Look for the tension... All right, let your tongue return to a comfortable and relaxed position... Now purse your lips, press your lips tighter and tighter... Relax the lips. Note the contrast between tension and relaxation. Feel the relaxation all over your face, all over your forehead and scalp, eyes, jaws, lips, tongue and throat. The relaxation progresses further and further... Now attend to your neck muscles. Press your head back as far as it can go and feel the tension in the neck; roll it to the right and feel the tension shift; now roll it to the left. Straighten your head and bring it forward, press your chin against your check. Let your head return to a comfortable position, and study the relaxation. Let the relaxation develop... Shrug your shoulders, right up. Hold the tension... Drop your shoulders and feel the relaxation. Neck and shoulders relaxed... Shrug your shoulders again and move them around. Bring your shoulders up and forward and back. Feel the tension in your shoulders and in your upper back. Drop your shoulders once more and relax. Let the relaxation spread deep into the shoulders, right into your back muscles; relax your neck and throat, and your jaws and other facial areas as the pure relaxation takes over and grows deeper... and deeper... ever deeper.

Relaxation of Chest, Stomach, and Lower Back
(time 4-5 minutes)

Relax your entire body to the best of your ability. Feel that comfortable heaviness that accompanies relaxation. Breathe easily and freely in and out. Notice how

the relaxation increases as you exhale...as you breathe out just feel that relaxation... Now breathe right in and fill your lungs; inhale deeply and hold your breath. Study the tension... Now exhale, let the walls of your chest grow loose and push the air out automatically. Continue relaxing and breathe freely and gently. Feel the relaxation and enjoy it... With the rest of your body as relaxed as possible fill your lungs again. Breathe in deeply and hold it again... That's fine, breathe out and appreciate the relief.

Just breathe normally. Continue relaxing your chest and let the relaxation spread to your back, shoulders, neck and arms. Merely let go...and enjoy the relaxation. Now let's pay attention to your abdominal muscles, your stomach area. Tighten your stomach muscles, make your abdomen hard. Notice the tension... And relax. Let the muscles loosen and notice the contrast... Once more, press and tighten your stomach muscles. Hold the tension and study it... And relax. Notice the general well-being that comes with relaxing your stomach. Now draw your stomach in, pull the muscles right in and feel the tension this way. Now relax again. Let your stomach out. Continue breathing normally and easily and feel the gentle massaging action all over your chest and stomach... Now pull your stomach in again and hold the tension... Now push out and tense like that; hold the tension and...once more pull in and feel the tension...now relax your stomach fully. Let the tension dissolve as the relaxation grows deeper. Each time you breathe out, notice the rhythmic relaxation both in your lungs and in your stomach. Notice thereby how your chest and your stomach relax more and more... Try and let go of all contractions anywhere in your body... Now direct your attention to your lower back. Arch up your back, make your lower back quite hollow, and feel the tension along your spine...and settle down comfortably again relaxing the lower back... Just arch your back up and feel the tensions as you do so. Try to keep the rest of your body as relaxed as possible. Try to localize the tension throughout your lower back area... Relaxing further and further. Relax your lower back, relax your upper back, spread relaxation to your stomach, chest, shoulders, arms and facial area. These parts relaxing further and further and ever deeper.

Relaxation of Hips, Thighs, and Calves, followed by
Complete Body Relaxation (time 4-5 minutes)

Let go of all tensions and relax... Now flex your buttocks and thighs. Flex your thighs by pressing down your heels as

hard as you can... Relax and note the difference... Straighten your knees and flex your thigh muscles again. Hold the tension... Relax your hips and thighs. Allow the relaxation to proceed on its own... Press your feet and toes downwards, so that your calf muscles become tense. Study that tension... Relax your feet and calves.. This time bend your feet towards your face so that you feel tension along your shins. Bring your toes right up... Relax again. Keep relaxing for awhile... Now knees, thighs, buttocks, and hips. Feel the heaviness of your lower body as you relax still further... Now spread the relaxation to your stomach, waist, lower back. Let go more and more. Feel the relaxation all over.. Let it proceed to your upper back, chest, shoulders and arms right to the tips of your fingers. Keep relaxing more and more deeply. Make sure that no tension has crept into your throat; relax your neck and your jaws and all your facial muscles. Keep relaxing your whole body like that for awhile. Let yourself relax.

Now you can become twice as relaxed as you are merely by taking in a really deep breath and slowly exhaling. With your eyes closed so that you become less aware of objects and movements around you and thus prevent any surface tensions from developing, breathe in deeply and feel yourself becoming heavier. Take in a long deep breath and let it out very slowly... Feel how heavy and relaxed you have become.

In a state of perfect relaxation you should feel unwilling to move a single muscle in your body. Think about the effort that would be required to raise your right arm. As you think about raising your right arm, see if you can notice any tensions that might have crept into your shoulder and your arm... Now you decide not to lift the arm but to continue relaxing. Observe the relief and the disappearance of the tension.

Just carry on relaxing like that. When you wish to open your eyes, count backwards from five to one. You should then feel fine and refreshed, wide awake and calm.

APPENDIX E

Interview Outline:
Identifying Characteristics for Imagery Session

- I Situation - Theme of situation
- II Persons - List of persons in situation
- III Description of Persons - How persons dress, physical description
- IV Mood - General Mood of persons involved
- V Personality - General personality of persons involved
- VI Appearance - Reaction and first impression of the persons
- VII Time - Time, if time of day is important to situation
- VIII Place - Detailed description of location situation occurs (colors, significant objects)
- IX Personal Emotional State - Subject's general emotional state in the situation
- X Outcome - Desired outcome of situation

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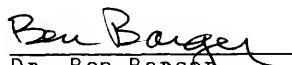
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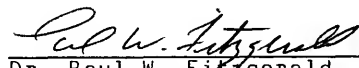
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